



Case Study IE-POWER

Nippon Filcon and the HydroX[®]

NIPPON FILCON CO., LTD. started as a manufacturer of wire mesh for paper-making in 1916, and has since grown, now providing a wide range of materials and industrial goods including industrial filters, conveyor belts, electronic components, photomasks as well as environment protection equipment and water filtering.

NIPPON FILCON has integrated IE-POWER into its power station; Hydro X[®], for use in disasters or emergencies. The station produces its own hydrogen by electrolyzing water using solar energy for power. The hydrogen generated is then stored in metal hydride cartridges. The hydrogen is used when required by the IE-POWER for generating electricity.

- The station has two metal hydride cartridges
- The station is capable of charging 24 smartphones at the same time and 257 smartphones in total
- Using the optional water filtering unit, the station can provide 18,000 litres of clean water which is enough to supply water for an evacuation center with the capacity of 1,000+ people
- The station is portable as it has casters (it can be secured in place by using the caster brake)
- Easy operation:
 - To start the station, all you need to do is turn the switch
 - 3 status light indicates the status/condition of the station

"By using IE-POWER, which has an advanced operation management system, we were able to drastically reduce our development period and launch our product into the market in a very short time. HydroX has been designed to supply 'power' and 'water' which are essential in a post-disaster situation. The IE-POWER has allowed us to contribute to the community by supplying a robust and highly reliable system in case of emergency and participate towards achieving the hydrogen society"

Kunio Nomura, Corporate Officer of NIPPON FILCON CO.

Product Specification

Hydro X® Power

Installation	Fixed type castor (Portable)
Location of use	Outdoor use
Dimensions	H 965 × W 610 × D 785
Storage temperature	-20°C to 50°C
Operating ambient temperature range	0°C to 40°C (no dewing or freezing)
Weight	130kg
Start-up time	10 to 300 sec
Hydrogen supply	Hydrogen absorbing alloy tank (cartridge)
Output Power:	AC100V 500W max (2 outlets), (700W max with supplying hydrogen by high pressure gas cylinder/supply facilities)
Safety	Auto shut off (flammable gas sensor)

Features of the IE-POWER technology used in the Hydro X®

- Proven, reliable fuel cell system technology
- CE and FCC certified
- Utilises Intelligent Energy's robust air cooled fuel cell technology
- Regulated output designed for hybridisation with a 24V or 48V battery array
- Simple balance-of-plant
- Modular, scalable system
- Assured power availability



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